



```

Db      221 TLHSTSPAEDEFTRHVLQIHRSKGLQDLOGISMOQALCIMLFTVYFSIMKGVKTSKV 280
      240 VVWTLAPRVVLLILLARCVTLPGATBEGIRYVLPDEMHLKNSKWIDAASQIFESLPG 299
      281 VVWTLAPRVVLLILLARCVTLPGATBEGIRYVLPDEMHLKNSKWIDAASQIFESLPG 340
      300 FGTLLALSYNNKFNKNCYRDALITSSINCLTSFLAGFYFVSIVGMAHONKSIEVGL 359
      341 FGVLALFASYNKFNKNCYRDALITSSINCLTSFLAGFYFVSIVGMAHONKSIEVGL 400
      360 -GPGVLTVPYPAATVMTGSVFWALIFFLMLITLGLDSTFGGLEAVTTALCDEYPRVLCR 418
      401 AGPSLFTFYEAIAINMPASTFEFAIFFMLITLGLDSTFGGLEAVTTALCDEYPRVLCR 460
      419 HREVVAVALLFTFYICALPTTGYGVYVLDLNVYGPGLALFVFAEAGCWYGVDR 478
      461 RRRFVLAVVITCFPGSLVTLTFEGGAYVVKLEETATGPAVLTALIEVAVSMFYGITQ 520
      479 FSEDVRLMGLHPCGMFWMTGWSYISPVLLVLFVSVLAHEEMLGGEYTPSMSTVGMV 538
      521 FCRODKEMLGSPGFMFRIHCWAIISPLFLFTICSFMSPPQLRFQYINPYMSTIILGIC 580
      539 MTGTVSCIPLYIYKLLTPGNCINR-IKTIQREPVTSIPADSTL 584
      581 IGTSSFICIPYIAYRIITPQTFEKRIKTSITPTEPIPCGDYRL 627

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## RESULT 2

neurotransmitter transport protein - rat  
 C:Species: Rattus norvegicus (Norway rat)  
 C:Date: 06-Jan-1995 #sequence\_revision 06-Jan-1995 #text\_change 20-Aug-1999  
 C:Accession: S30604  
 R:Mayser, W.; Betz, H.; Schloss, P.  
 FEBS Lett. 295, 203-206, 1991  
 A:Title: Isolation of cDNAs encoding a novel member of the neurotransmitter transporter  
 A:Reference number: S30604; MUID:92111740; PMID:1765155  
 A:Accession: S30604  
 A:Status: preliminary  
 A:Molecule type: mRNA  
 A:Residues: 1-630 <MA>  
 A:Cross-references: EMBL:X63995; NID:g56779; PIDN:CAA45401.1; PID:g56780  
 C:Superfamily: gamma-aminobutyric acid transporter  
 C:Keywords: transmembrane protein

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Query Match      54.5%; Score 1712; DB 2; Length 630;
est Local Similarity 54.5%; Pred. No. 7,5e-122;
atches 315; Conservative 100; Mismatches 147; Indels 16; Gaps 6;

      17 LPATTA--OKSRSVVSLTP-----ARQRETWAKAEFLAVGVFAVDLGVMREPYIC 68
      50 VPSISAGEASHSTAAITTLVAELRQGERETWGMKMDPLLSVIGYAVDLGNIMFPYIC 109
      69 YONGGAPFLPYCVMLFEGPLFLELALGOYHRGCGLTLMKRICPALKGVAYICMD 128
      110 YONGGAPFLPYTIAIFGIPLEFYMEALDGOYHRNGCISIMWKICPIFGIGAYICIA 169
      129 -IYMGVYNTIIGMAVYVLLASIASINSVLPMTSCNEMNTPLCTPYTSPTQ---NPNSST 185
      170 FYIASVYNTIIGMAVYVLLASIASINSVLPMTSCNEMNTPLCTPYTSPTQ---NPNSST 226
      186 PAKEFFERNVLEQHSNGLDDMKPIKPSLALCVFVFLVYFSLKKGVRSAGKVVWVWAL 245
      227 PAEEFYLRHVLDQIHOSKGLQDLOGITSSINCLTSFLAGFYFVSIVGMAHONKSIEVGL 286
      246 APYVVLILLARCVTLPGATBEGIRYVLPDEMHLKNSKWIDAASQIFESLPGFETLLA 305
      287 FPYIYLVAVLVRGATLPGAMRGVVEYFLKPNMOKLLETGVWDAQAQIFESLPGFVILA 346
      306 LSYNNKFNKNCYRDALITSSINCLTSFLAGFYFVSIVGMAHONKSIEVGL- GPGVLT 364
      347 FASYNNKFNKNCYRDALITSSINCLTSFLAGFYFVSIVGMAHONKSIEVGL- GPGVLT 406

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      365 FIVEPEATMTGVSFWALIFFLMLITLGLDSTFGGLEAVTTALCDEYPRVLCR 424
      407 FITVAEAIANMPASTFEFAIFFMLITLGLDSTFGGLEAVTTALCDEYPRVLCR 466
      425 AVLLFTFYICALPTTGYGVYVLDLNVYGPGLALFVFAEAGCWYGVDR 484
      467 LIVITCVLGSLLTLTSGGAYVVKLEETATGPAVLTALIEVAVSMFYGITQ 526
      485 TMLGHTPCGMFWMTGWSYISPVLLVLFVSVLAHEEMLGGEYTPSMSTVGMV 544
      527 EMLGSPGFMFRIHCWAIISPLFLFTICSFMSPPQLRFQYINPYMSTIILGIC 586
      545 SCIPLYIYKLLTPGNCINR-IKTIQREPVTSIPADSTL 581
      587 ICIPYIYRIITPQTFEKRIKTSITPTEPIPCGD 624

```

## RESULT 3

serotonin transport protein - rat  
 C:Species: Rattus norvegicus (Norway rat)  
 C:Date: 13-Jan-1995 #sequence\_revision 13-Jan-1995 #text\_change 16-Feb-1997  
 C:Accession: S19585  
 R:Blakely, R.D.; Berson, H.E.; Freneau Jr., R.T.; Caron, M.G.; Peek, M.M.; Prince, H.  
 Nature 354, 66-70, 1991  
 A:Title: Cloning and expression of a functional serotonin transporter from rat brain.  
 A:Reference number: S19585; MUID:92049754; PMID:1944572  
 A:Accession: S19585  
 A:Status: preliminary  
 A:Molecule type: mRNA  
 A:Residues: 1-607 <BLA>  
 A:Cross-references: EMBL:X63253  
 C:Superfamily: gamma-aminobutyric acid transporter  
 C:Keywords: transmembrane protein

```

Query Match      54.4%; Score 1710; DB 2; Length 607;
est Local Similarity 54.6%; Pred. No. 1e-121;
Matches 315; Conservative 98; Mismatches 148; Indels 16; Gaps 6;

      18 PATTA--OKSRSVVSLTP-----ARQRETWAKAEFLAVGVFAVDLGVMREPYIC 69
      28 PGTSGADEASHSTAAITTLVAELRQGERETWGMKMDPLLSVIGYAVDLGNIMREPYIC 87
      70 ONGGAPFLPYCVMLFEGPLFLELALGOYHRGCGLTLMKRICPALKGVAYICMDI 129
      88 ONGGAPFLPYTIAIFGIPLEFYMEALDGOYHRNGCISIMWKICPIFGIGAYICIA 147
      130 YMGVYNTIIGMAVYVLLASIASINSVLPMTSCNEMNTPLCTPYTSPTQ---NPNSSTP 186
      148 FYIASVYNTIIGMAVYVLLASIASINSVLPMTSCNEMNTPLCTPYTSPTQ---NPNSSTP 204
      187 AKEFFERNVLEQHSNGLDDMKPIKPSLALCVFVFLVYFSLKKGVRSAGKVVWVWALA 246
      205 AEEFYLRHVLDQIHOSKGLQDLOGITSSINCLTSFLAGFYFVSIVGMAHONKSIEVGL 264
      247 PYVVLILLARCVTLPGATBEGIRYVLPDEMHLKNSKWIDAASQIFESLPGFETLLA 306
      265 PYIYLVAVLVRGATLPGAMRGVVEYFLKPNMOKLLETGVWDAQAQIFESLPGFVILA 324
      307 SSYNNKFNKNCYRDALITSSINCLTSFLAGFYFVSIVGMAHONKSIEVGL- GPGVLT 365
      325 ASYNNKFNKNCYRDALITSSINCLTSFLAGFYFVSIVGMAHONKSIEVGL- GPGVLT 384
      366 IYVPAATVMTGSVFWALIFFLMLITLGLDSTFGGLEAVTTALCDEYPRVLCR 425
      385 ITVAEAIANMPASTFEFAIFFMLITLGLDSTFGGLEAVTTALCDEYPRVLCR 444
      426 VLLFTFYICALPTTGYGVYVLDLNVYGPGLALFVFAEAGCWYGVDR 485
      445 IVITVCVLSGLTLTSGGAYVVKLEETATGPAVLTALIEVAVSMFYGITQ 504
      486 MLGHTPCGMFWMTGWSYISPVLLVLFVSVLAHEEMLGGEYTPSMSTVGMV 545

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Db 505 MGFSPGFWIRICWVAISPLFLFIICSEFLMSPPOLRLQYVNPVPHMSIVLGYCIGMSVYL 564  
QY 546 CIEPIIYIKLLTPGNCINR-IKTQREVTSTIPAD 581  
Db 565 CIEPIIYIKLLSTPGTLKERIKSTIPETPEIPGCD 601

## RESULT 4

noradrenaline transport protein - bovine  
C:Species: Bos primigenius taurus (cattle)  
C:Date: 25-Oct-1994 #sequence\_revision 12-Apr-1996 #text\_change 20-Aug-1999  
C:Accession: S43285  
R:lingen, B.; Bruess, M.; Boenisch, H.  
FEBS Lett. 342, 235-238, 1994  
A:Title: Cloning and expression of the bovine sodium- and chloride-dependent noradrenaline  
A:Reference number: S43285; MUID:94200377; PMID:8150077  
A:Accession: S43285  
A:Status: nucleic acid sequence not shown  
A:Molecule type: mRNA  
Residues: 1-615 <LIN>

A:Cross-references: EMBL:X79015; NID:g1050438; PIDN:CAA55645.1; PID:g1050439  
C:Superfamily: gamma-aminobutyric acid transporter  
C:Keywords: glycoprotein; phosphoprotein; transmembrane protein  
F:63-83/Domain: transmembrane #status predicted <TM1>  
F:91-113/Domain: transmembrane #status predicted <TM2>  
F:134-154/Domain: transmembrane #status predicted <TM3>  
F:235-254/Domain: transmembrane #status predicted <TM4>  
F:260-282/Domain: transmembrane #status predicted <TM5>  
F:309-329/Domain: transmembrane #status predicted <TM6>  
F:341-363/Domain: transmembrane #status predicted <TM7>  
F:392-416/Domain: transmembrane #status predicted <TM8>  
F:442-460/Domain: transmembrane #status predicted <TM9>  
F:473-496/Domain: transmembrane #status predicted <TM10>  
F:517-535/Domain: transmembrane #status predicted <TM11>  
F:554-577/Domain: transmembrane #status predicted <TM12>  
F:257,577,581/Binding site: phosphate (Ser) (covalent) #status predicted

## Query Match

Best Local Similarity 51.2%; Score 1608.5; DB 2; Length 615;

Matches 296; Conservative 107; Mismatches 146; Indels 33; Gaps 7;

QY 6 APPAPAPPDLPATTAQKRSRVVSLTPARO-----RETWAKKAPELLAVGVAVDLGN 60  
Db 17 AAGPSGQPRKRRKVELVYKERNGVOCCLASRDGDEPRETWGKKIDFLSVGFADLAN 76  
QY 61 VWRFPYICQNGGAFILPYCYMLFGLPLFELLALGQYHRCGCTLMKRICPALKGV 120  
Db 77 VWRFPYLCYKNGGAFILPYCYMLFGLPLFELLALGQYHRCGCTLMKRICPALKGV 135  
QY 121 GAICMIDLYMGMYNTIIGMAVYVLIASLASINSVLPMTSCDNENMTLCTPVTSPQTN 180  
Db 136 GAAVILIALYGVFYVNIIVIAVSLYL--FSSFTPTLPMTDGHANNSPNC-----TD 185  
QY 181 P---NSS-----TPAKEFFERNVLEQHKNSGLDMDGPIKPSLALCVGFVYL 224  
Db 186 PRLNLSVYGNHTKSKYKFTPAEFYERGVLIHSSSGIHIDGLPQMLLCLITIVY 245  
QY 225 VYFSLMKVRSAGKVVWVATALAPYVLLILLAGVTLPGATEGIRYVLTPEMHKIONSKV 284  
Db 246 LFESLMKVGKTSKVVWVITATLPYVLLFVLVHGITLPGASNGINAYLHIDFRLKEAVY 305  
QY 285 WIDAAQIFESLGPFGTLLASVYKFNNNCYRDLITSSINCLTSLAGFVIFSVLYG 344  
Db 306 WIDAAQIFESLGPFGTLLASVYKFNNNCYRDLITSSINCLTSLAGFVIFSVLYG 365  
QY 345 MAHVONKSIIEVGLGPGVLFVYVPEAATMTGSVWATIFFMLTLTGLDSTFGGLEAV 404  
Db 366 MAHEHKVNIIEVATBEGAGVLFVILYPAISTLSGSTFWATVFFIMLALGIDSSMGMEAV 425  
QY 405 TATLDCDEYRVVLRHREVFVAVLLLFYICALLPTTGGVAVLDLINVGPGLAIFVVF 464

Db 426 ITGLADDF-QVLKRHRKLTFFAVSFQTLFLLFCITKGCIGYVLLTDLTFAAGTSLIFAVL 484  
QY 465 AEAAGVWYGVDRSEEDRTMIGHRPGMFWTCWSYISPVLLVLFVSVLAHEMLGG 524  
Db 485 MEAIGVSWFYGVDRSNDIQMMGFRPGLYWRKMWFSVAPLFFVVISINFRPLTYD 544  
QY 525 EYTPSMSITGVWMTGTVCSCIPYIYIKLLITPNCINRI 566  
Db 545 DYIFPLMANVWGMGIAGSSMVLPAIYVKKFSTROSINERL 586

## RESULT 5

S14278  
noradrenaline transport protein - human  
C:Species: Homo sapiens (man)  
C:Date: 18-Feb-1994 #sequence\_revision 10-Nov-1995 #text\_change 20-Aug-1999  
C:Accession: S14278  
R:Pacholczyk, T.; Blakely, R.D.; Amara, S.G.  
Nature 350, 350-354, 1991  
A:Title: Expression cloning of a cocaine- and antidepressant-sensitive human noradren  
A:Reference number: S14278; MUID:91179515; PMID:2008212  
A:Accession: S14278  
A:Status: preliminary  
A:Molecule type: mRNA  
A:Residues: 1-617 <PAC>  
A:Cross-references: GB:M65105; NID:g189257; PIDN:AAA59943.1; PID:g189258  
C:Genetics:  
A:Gene: GDB:SLC6A2; NAT1  
A:Cross-references: GDB:127367; OMIM:163970  
A:Map position: 16q12.2-16q12.2  
C:Superfamily: gamma-aminobutyric acid transporter  
C:Keywords: transmembrane protein

## Query Match

Best Local Similarity 51.1%; Score 1605.5; DB 2; Length 617;

Matches 307; Conservative 106; Mismatches 155; Indels 27; Gaps 10;

QY 1 MPSPDAP---APTAPPDLPATTAQKRSRVVSLTPARO-----RETWAKKAPELLAVGVAVDLGN 60  
Db 6 MPSPDAP---APTAPPDLPATTAQKRSRVVSLTPARO-----RETWAKKAPELLAVGVAVDLGN 65  
QY 48 LIAVGFVAVDLGNVWRFPYICQNGGAFILPYCYMLFGLPLFELLALGQYHRCGCTLMKR 107  
Db 66 LIAVGFVAVDLGNVWRFPYICQNGGAFILPYCYMLFGLPLFELLALGQYHRCGCTLMKR 125  
QY 108 TLMKRICPALKGVYVATVMTGMYNTIIGMAVYVLIASLASINSVLPMTSCDNENMTLCT 167  
Db 126 TLMKRICPALKGVYVATVMTGMYNTIIGMAVYVLIASLASINSVLPMTSCDNENMTLCT 181  
QY 168 TLMKRICPALKGVYVATVMTGMYNTIIGMAVYVLIASLASINSVLPMTSCDNENMTLCT 218  
Db 182 TLMKRICPALKGVYVATVMTGMYNTIIGMAVYVLIASLASINSVLPMTSCDNENMTLCT 241  
QY 219 FGVEVLVYFSLMKVRSAGKVVWVATALAPYVLLILLAGVTLPGATEGIRYVLTPEMHK 278  
Db 242 FGVEVLVYFSLMKVRSAGKVVWVATALAPYVLLILLAGVTLPGATEGIRYVLTPEMHK 301  
QY 279 LONSKVWIDAASQIFESLGPFGTLLASVYKFNNNCYRDLITSSINCLTSLAGFVIFSV 338  
Db 302 LONSKVWIDAASQIFESLGPFGTLLASVYKFNNNCYRDLITSSINCLTSLAGFVIFSV 361  
QY 339 FSVLGMVAVONKSIIEVGLGPGVLFVYVPEAATMTGSVWATIFFMLTLTGLDSTFG 398  
Db 362 FSVLGMVAVONKSIIEVGLGPGVLFVYVPEAATMTGSVWATIFFMLTLTGLDSTFG 421  
QY 399 GGLVAVTALCOEYRVVLRHREVFVAVLLLFYICALLPTTGGVAVLDLINVGPGLAIF 458  
Db 422 GGLVAVTALCOEYRVVLRHREVFVAVLLLFYICALLPTTGGVAVLDLINVGPGLAIF 480  
QY 459 ILFVFAEAGVWYGVDRSEEDRTMIGHRPGMFWTCWSYISPVLLVLFVSVLAHEMLGG 518  
Db 481 ILFVFAEAGVWYGVDRSEEDRTMIGHRPGMFWTCWSYISPVLLVLFVSVLAHEMLGG 540



C:Superfamily: gamma-aminobutyric acid transporter

Query Match 49.4%; Score 1552; DB 2; Length 620;  
Best Local Similarity 50.1%; Pred. No. 9.6e-110;  
Matches 283; Conservative 110; Mismatches 156; Indels 16; Gaps 5;

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OY 17 LPATTAQKRSRVVSLTPARQRETMAKAEFLAVGVAVDLGNVWREPYICYONGGAF 76
    |::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|
Db 42 LTSSTLTNPQ---SPVEADQRETMGKKIDFLLSYIGFAVDLANVWREPYICYNGGAF 98
OY 77 LIPCYMLLFGGLPLFLELALGOYHRCGCLTLKRICPALKGYAICMIDYMGMYN 136
    |::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|
Db 99 LVPYLLFVNIAGMPLFVMEALAGFNRGAAGVWK-ICPILKGVGFYILISLVGFYYN 157
OY 137 TIIGMAVYLLASLASINSVLPWTSQDNEMNTPLCTPVTSPQTPNNS-----TPAK 188
    |::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|
Db 158 VIIMALHYL---FSSFTTELPWICHNNNSMSPNCSDAHPDSSGSDSGLDFTGTPAA 214
OY 189 EFERNNVLEOKHNSGLDMGPRIKPSIALCVGFVPLVYFSLMKGVSAGKVVWYATALAPY 248
    |::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|
215 EYERGVYHLHQSIGIDDLGPRMQLTACLVLYTLVLSLMKGKYSKGVWYITATMPY 274
OY 249 VLLILLARGVTLPGATEGIRYTLTPREHKLQNSKWIDAASQIFSLGPGFTLLALS 308
    |::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|
Db 275 VLLALLLRGVTLLGALDGIKIRAYLSVDFYRLCEASWIDATQVCFSLGVGFVLAIFS 334
OY 309 YNKFNNNRYRALLTSSINCLTSLFAGVIFSVLGMAHVNKSTEEVGLGPGVLYFY 368
    |::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|
Db 335 YNKFNNNRYRALLTSSINCLTSLFAGVIFSVLGMAHVNKSTEEVGLGPGVLYFY 394
OY 369 PEATATMTGSVFAIIFFLMLITGLDSTFGLEAVTALCDEYPRVLRHREYFAVLL 428
    |::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|
Db 395 PEATATPLSSAMAVFEIMLTGLIDSAMGMESVITGLDEF-QLLHRRRELTFTLY 453
OY 429 LFIYICALPTTGGVYLVLDLNNYGPGLAILFVFAEAGVWYVDRESEDTYRLMG 488
    |::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|
Db 454 LATFLLSLFCVTNGIGYVFTLLDHPAAGTSLFGLVLAIGVAMFYGVGSDDIQMTG 513
OY 489 HTPGFMFTCSYISPVLLVLFVSVLAHEMIGETTPSMTITVGMWGTGVSCIP 548
    |::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|
Db 514 QRPSTLYWMLCKWLSPCLLFVVVSYTFPRPHYGATIFPDMAALGVIATSSMAVVP 573
OY 549 LYIYKLLITPGNCINRIKTQRP 573
    |::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|
Db 574 IYAAVKFCSLPGSPREKLAIAIAPE 598

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## RESULT 9

A:8980 Dopamine transporter - human

C:Species: Homo sapiens (man)

C:Date: 19-Dec-1993 #sequence\_revision 18-Nov-1994 #text\_change 20-Aug-1999

C:Accession: A48980; A46198; I57952

R:Vandenberg, D.J.; Persico, A.M.; Uhl, G.R.

Brain Res. Mol. Brain Res. 15, 161-166, 1992

A:Title: A human dopamine transporter cDNA predicts reduced glycosylation, displays a no

A:Reference number: A48980; MUID:93061810; PMID:1353873

A:Accession: A48980

A:Molecule type: mRNA

A:Residues: 1-620 <VAN>

A:Cross-references: GB:M95167; NID:g703094; PIDN:AA041720.1; PID:g181656

A>Note: sequence extracted from NCBI backbone (NCBIN:117141, NCBIPI:117142)

R:Bannon, M.J.; Poosch, M.S.; Xia, Y.; Goebel, D.J.; Cassin, B.; Kapatos, G.

Proc. Natl. Acad. Sci. U.S.A. 89, 7095-7099, 1992

A:Title: Dopamine transporter mRNA content in human substantia nigra decreases precipit

A:Reference number: A46198; MUID:92357778; PMID:1353885

A:Accession: A46198

A:Molecule type: mRNA

A:Residues: 164-255 <BAN>

A:Cross-references: GB:M96670; NID:g181653; PIDN:AA35770.1; PID:g553260

A:Experimental source: substantia nigra

A>Note: sequence extracted from NCBI backbone (NCBIN:11687, NCBIPI:11688)

R:Pistupa, Z.B.; Wilson, J.M.; Hoffman, B.J.; Kish, S.J.; Niznik, H.B.

Mol. Pharmacol. 45, 125-135, 1994

A:Title: Pharmacological heterogeneity of the cloned and native human dopamine transp

A:Reference number: 157952; MUID:94134051; PMID:8302271

A:Accession: 157952

A:Status: preliminary; translated from GB/EMBL/DBJ

A:Molecule type: mRNA

A:Residues: 1-620 <RES>

A:Cross-references: GB:L24178; NID:g401764; PIDN:AA19560.1; PID:g401765

A:Gene: GDB:SLC6A3; DAT1

A:Cross-references: GDB:132445; OMIM:126455

A:Map position: 5p15.3-5p15.3

C:Superfamily: gamma-aminobutyric acid transporter

C:Keywords: transmembrane protein

Query Match 49.1%; Score 1542; DB 2; Length 620;  
Best Local Similarity 49.9%; Pred. No. 5.5e-109;  
Matches 282; Conservative 110; Mismatches 157; Indels 16; Gaps 5;

```

OY 17 LPATTAQKRSRVVSLTPARQRETMAKAEFLAVGVAVDLGNVWREPYICYONGGAF 76
    |::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|
Db 42 LTSSTLTNPQ---SPVEADQRETMGKKIDFLLSYIGFAVDLANVWREPYICYNGGAF 98
OY 77 LIPCYMLLFGGLPLFLELALGOYHRCGCLTLKRICPALKGYAICMIDYMGMYN 136
    |::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|
Db 99 LVPYLLFVNIAGMPLFVMEALAGFNRGAAGVWK-ICPILKGVGFYILISLVGFYYN 157
OY 137 TIIGMAVYLLASLASINSVLPWTSQDNEMNTPLCTPVTSPQTPNNS-----TPAK 188
    |::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|
Db 158 VIIMALHYL---FSSFTTELPWICHNNNSMSPNCSDAHPDSSGSDSGLDFTGTPAA 214
OY 189 EFERNNVLEOKHNSGLDMGPRIKPSIALCVGFVPLVYFSLMKGVSAGKVVWYATALAPY 248
    |::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|
215 EYERGVYHLHQSIGIDDLGPRMQLTACLVLYTLVLSLMKGKYSKGVWYITATMPY 274
OY 249 VLLILLARGVTLPGATEGIRYTLTPREHKLQNSKWIDAASQIFSLGPGFTLLALS 308
    |::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|
Db 275 VLLALLLRGVTLLGALDGIKIRAYLSVDFYRLCEASWIDATQVCFSLGVGFVLAIFS 334
OY 309 YNKFNNNRYRALLTSSINCLTSLFAGVIFSVLGMAHVNKSTEEVGLGPGVLYFY 368
    |::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|
Db 335 YNKFNNNRYRALLTSSINCLTSLFAGVIFSVLGMAHVNKSTEEVGLGPGVLYFY 394
OY 369 PEATATMTGSVFAIIFFLMLITGLDSTFGLEAVTALCDEYPRVLRHREYFAVLL 428
    |::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|
Db 395 PEATATPLSSAMAVFEIMLTGLIDSAMGMESVITGLDEF-QLLHRRRELTFTLY 453
OY 429 LFIYICALPTTGGVYLVLDLNNYGPGLAILFVFAEAGVWYVDRESEDTYRLMG 488
    |::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|
Db 454 LATFLLSLFCVTNGIGYVFTLLDHPAAGTSLFGLVLAIGVAMFYGVGSDDIQMTG 513
OY 489 HTPGFMFTCSYISPVLLVLFVSVLAHEMIGETTPSMTITVGMWGTGVSCIP 548
    |::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|
Db 514 QRPSTLYWMLCKWLSPCLLFVVVSYTFPRPHYGATIFPDMAALGVIATSSMAVVP 573
OY 549 LYIYKLLITPGNCINRIKTQRP 573
    |::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|::|
Db 574 IYAAVKFCSLPGSPREKLAIAIAPE 598

```

## RESULT 10

A:15958 Dopamine transporter - rat

C:Species: Rattus norvegicus (Norway rat)

C:Date: 02-Aug-1996 #sequence\_revision 02-Aug-1996 #text\_change 20-Aug-1999

C:Accession: 159558; I59559

R:Shimada, S.; Kitayama, S.; Lin, C.

Science 254, 576-578, 1991

A:Title: Cloning and expression of a cocaine-sensitive dopamine transporter cDNA.

A:Reference number: 159558; MUID:92054539; PMID:1948034

A:Accession: 159558

A:Status: preliminary; translated from GB/EMBL/DBJ

A:Molecule type: mRNA



Oy 14 PPDLPAATTAOKSRSSVSVSLTPARORETMAKAEFLAVGVADLVGVWVPPPYCYONG 73  
 Db 7 PIDDPVNTPEPDL-----PA--REOMSGDLDELVSVGAVDLGNIMRPICFRNGG 56  
 Oy 74 GAFLIPYCVMLFGLGPLFLELELALGOYHRGCGLTLLKRIICPALKGVAICMIDIMGM 133  
 Db 57 GVFLIPYSIMVLGLGVPLFVWELCTGGYRKGALITTMGRICLPKIGCYCITLAFVDF 116  
 Oy 134 YVNTIIGNAVYYLLASLASINSVLPMTSCDNEWNTPLC-----TPVTSPTQNTNSS--- 184  
 Db 117 FYNYILAMGLHYLXTSF-SFN--LPMASSCNNSYSPACYPEHMSDGTAMCRSANOVSVA 173  
 Oy 185 ---TPAKEFEERNVLEOHKSN-----GLDDGPIKPSLALCFGVFVLYVLSLKG 233  
 Db 174 EKISAEDEYFYKFGTLGLEHNAAPNSHVIKSTDLGNRWMDLALSFLVYLYICTYSMMKGI 233  
 Oy 234 RSAGKVVWVATLADYVLLILLAGCVTLPGCTEGIRYRLAPEWHKLONSKVWIDASQIF 293  
 Db 234 HTSKRVWVFALFVYVVLGILFIRGVTLPGOMNIEYLRNPFEMLRKPSWQDAATQVF 293  
 Oy 294 FSLPGFGTLLALSYNKENNCCYRDALLITSINCLTSLAGPAIFGVLCGMARVOKSI 353  
 Db 294 FSLPGFGVLMAYSYNDFFHNNVYDALFTSFICATSFSLGFIYSVLGMSKSKRP 353  
 Oy 354 EEVGLGEGPLFIYVPEAIAITMTGVSFWAIIFFMLITLGLDSTFGGLEAVTALCDEP 413  
 Db 354 EAVAQEGGLFVYVYPEALSTMPYAPFMSVLFMLMTLGLDSSFGSGSEALITGLSDEP 413  
 Oy 414 RVLGRHREVPFAVLLFIYICALPTTYGGVYVLDLVNVPGLAILEFVFAEAGVCWV 473  
 Db 414 -ILKNRVEVFGCLFAFMVVGIAMCTEGGLIMEMILITGTTGGLLIVFCEAMVAYI 472  
 Oy 474 YGVDRFSEDEVYTMGLHTPGWFMFCWMSYISVFLVLVFEVSFLAHEMLAGEYVPSMSI 533  
 Db 473 YGLQPFYADVDEKMGFRGNWYKFCWSCAARFILLSMTISNFVQALTYODYTPIPAAN 532  
 Oy 534 TVGNVMGTYSCLPIYIYKLLITTPGNCINRITITQAREVTSIIPADSTLCN 586  
 Db 533 VIGITFALSGASFPLVGIVKFEVNARGN-----TISERTDKAVYQJIASPFQCN 579

RESULT 13  
 T43330  
 catecholamine transport protein - *Caenorhabditis elegans*  
 C:Species: *Caenorhabditis elegans*  
 C:Date: 11-Jan-2000 #sequence, revision 11-Jan-2000 #text, change 21-Jul-2000  
 C:Accession: T43330  
 C:Jvarkit, L.D.: Apatrsundaram, S.; Malone, M.D.; Ward, E.; Miller, D.M.; Eppler, M.; E  
 1988  
 A:Title: The *Caenorhabditis elegans* gene T235.5 encodes an antidepressant- and cocaine-  
 A:Reference number: Z22431; MUID:96440631; PMID:9765501  
 A:Accession: T43330  
 A:Status: preliminary; translated from GB/EMBL/DBJ  
 A:Molecule type: mRNA  
 A:Residues: 1-615 <Jvarkit>  
 A:Cross-references: EMBL:AF079899; NID:g3982784; PIDN:AAC83661.1; PID:g3982785  
 C:Genetics:  
 A:Note: T235.5  
 C:Superfamily: gamma-aminobutyric acid transporter

```

OY 134 YNNTTIGAAVYLLIASLASINSVLDLPMPTSCDNDNMNPLC-----FVTPQPTNPNS---184
Db 136 FYNYLLANGLAHLYTSF-SFN--LPMASCNSTNSPACTEPHMSDEGTMCMSRANSVSA 192
OY 185 ---TPAKEFEFFERNVLEOHKSN-----GLDDMCPKPSLACVGEVFLVYFSLMKV 233
Db 193 EKISAEEFYFGFLGLHEANPNSHVIRSVYDGLGNVRDIALSLFVYLITCFYSMMKGI 252
OY 234 RSAGKVAVWVTALAPYVVDLLILARGVTLPGATEGIRYUULPREHKLQNSKWWIDAASQIF 293
Db 253 HTSGKVVWFTALFPYVVLGILFIRGYTLPGOMONGIEYULPRPFEMLKRRSVODATQYF 312
OY 294 FSLGPGFTLLALSSYNKFNNNNCYRDALITSSINCLTSPFLAGVIFSVLGYMAHWONKSI 353
Db 313 FSLGGPGCYLMAVSSYNDFHNHVVYDALFTSPINACTSPLSGVIFFSVLGYMSCKSGKPI 372
OY 354 BEVLEGPGCLVYFYPEALATMTGSVEMAIFFMLMLITGLDSTPFGLEAVTALCDEXP 413
Db 373 EAVAEGEGGLVYVYVPEALSTMPYAPFWSVLEFFMLMTLGLDSSFGSGSEIITGLSDEF 432
OY 414 RYLGRHREVEYAVVLLFLTYICALPTTYGGVYLVLDLNVYGRGLAILFVYFABAAGVCV 473
Db 433 -ILKKNREVEYCLPEAFYVWIGIAMCTEGCILLIMELIITYGTWGLLAVFCAMVIAYI 491
OY 474 YGVDRFSEDEVYRMLGHTPGMEWRCTOKSYISPVFLVLVYFSVLAHEMLAGEEYTPSWSI 533
Db 492 YGLRBFVHDVKEMEMFPRCPNMYMKWCSCAAPFILLSMISNFINFNOALYQODVYTPAAN 551
OY 534 TVGWMTGITYVSCIPLYIITYKLLITPGNCINR-----IKTIORPEVTSIPPADST 583

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RESULT 14  
A48716  
glycine transporter GLYT2 - rat  
C.Species: Rattus norvegicus (Norway rat)  
C.Date: 02-Jun-1995 #sequence-revision 02-Jun-1995 #text-change 02-Jun-1995  
C.Accession: A48716  
R.Liu, Q.R.; Lopez-Corcuera, B.; Mandiyan, S.; Nelson, H.; Nelson, N.  
J. Biol. Chem. 268, 22802-22808, 1993  
A.Title: Cloning and expression of a spinal cord- and brain-specific glycine transporter  
A.Reference number: A48716; MUID:94043045; PMID:826790  
A.Accession: A48716  
A.Status: preliminary  
A.Molecule type: mRNA  
A.Residues: 1-799 <L1U>  
C.Genetics:  
A.Gene: GLYT2  
C.Keywords: brain; transmembrane protein

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Query Match 45.0% Score 1412: DB 92: Length 615:
Best Local Similarity 46.3% Pred. No. 3,8e-99:
Matches 276: Conservative 103: Mismatches 177: Indels 40: Gaps 9:

QY PPDLPTATTAQKRSRVSVSLTPARORETAKKAEEFLAVGVFAVDGNAVREPYICYQNG 73
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
Db PIDGVTNNEPKD-----PA--REMSGKLDLFTLVYGVFAVDGNAVREPYICYQNG 75

QY 14 PPDLPTATTAQKRSRVSVSLTPARORETAKKAEEFLAVGVFAVDGNAVREPYICYQNG 73
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
Db 26 PIDGVTNNEPKD-----PA--REMSGKLDLFTLVYGVFAVDGNAVREPYICYQNG 75

QY 74 GAFILPYCVMLFGLGPLEFLEIALGOVHRCGLLTKMRIPAKGVGYAICMIDIYNGM 133
| | | | | : | : | : | | | | | : | : | | | | | : | : | : | : | : | : | : |
Db 76 GVFLLPYSIMVLLTGVPLFYMELCGQYTRKGAITTMGRICFLFGIGICVILTFAYVD 135

```

[illegible]



Db 423 YTTAFPPYVLLIRGTLPAGAGIYFTPKKELTDATVMDAATQIFFS:SAAM 484  
OY 301 GTLLASSYKNNKCYRDALITSSINCLTSLAGVIFSVLGMAHVNKSIIEVGLG 360  
Db 485 GGLITLSSNKHNKNCYRDLTIVCTNSATIFAGVIFSVIGFMANEKVNENADOG 544  
OY 361 PGLVFPVPEAATMTGVSFMAIIFFLMLITGLDSTFGCLAVTALCDEYPRVLR 420  
Db 545 PGIAFVYVEALTRPLDSPFWAIIFFMLLTGLDITMFATIEIYVSIISDEPKYLRTHK 604  
OY 421 EYFVAVLLFTYICALPTTYGGVILVDLNVYGECLALFEVFAAGVYVYDRS 480  
Db 605 PVFTLGCCCFEIMGFPMITGGIYVQLVDYVAAAYALVIAIFELVGISVYVGLQRC 664  
OY 481 EDVFTMLGTHPGEMFMTCSYISPVFLVLFVFSVLAHEEMLGGEYTPSITVGMWT 540  
Db 665 EDIEMKIGQPNIFPKVCAFEVTPITLTILCFSPFQMEPMYIGSIRYFMMSVAVLGML 724  
541 GTTVSCIPLYIYKLLITPGNCINRIKTQRP 573  
Db 725 ACSVIMIPIMFVKMYLAPGRFIERLKLVCSPQ 757

## RESULT 15

151368  
gamma-aminobutyric acid transport protein GAT-1 - Pacific electric ray  
C:Species: Torpedo californica (Pacific electric ray)  
C:Date: 13-Sep-1996 #sequence\_revision 13-Sep-1996 #text\_change 20-Aug-1999  
C:Accession: 151368; 542808  
R:Swanson, G.T.; Umbach, J.A.; Gundersen, C.B.  
J. Neurochem. 63, 1-12, 1994  
A:Title: G11a of the cholinergic electromotor nucleus of Torpedo are the source of the  
A:Reference number: 151368; M0ID:94267441; PMID:8207419  
A:Accession: 151368  
A:Status: preliminary; translated from GB/EMBL/DBJ  
A:Molecule type: mRNA  
A:Residues: 1-598 <SMA>  
A:Cross-references: EMBL:X77139; NID:g444009; PIDN:CAA54394.1; PID:g444010  
C:Genetics:  
A:Gene: TGAT-1  
C:Superfamily: gamma-aminobutyric acid transporter

Query Match 43.3%; Score 1360.5; DB 2; Length 598;  
Best Local Similarity 45.5%; Pred. No. 2.9e-95;  
Matches 255; Conservative 112; Mismatches 183; Indels 11; Gaps 6;

16 DLPATTAQKSRVSVSLTPAR---QREYAKKAEPFLAVYGFVVDLGNWRRPYICYONG 72  
19 DAPVSN-DKPKTLVAVVQKTRKIPEREKKGGRYDFLLSCVGAIGGNWRRPYICGKNG 77  
OY 73 GGAFLIPYCVMLFGLPLFLELALGOYHRCGLTLMKRICPALKGVYAICMIDIYMG 132  
Db 78 GGAFLIPYPMTLIFAGMIFLECSLGOTTSVGLGIW-RLAPMFKGVGLAAVLSFWLN 136  
OY 133 MYNTLTIGNAVYYLALSLASINSVLPWTSQDNEMWNTPLCTPYTSPQTNPNSSTPAKEFE 192  
Db 137 IYVVVIAIAIYYL--YNSFTSELPWQSCGNSMNTDRCFNSYMTNSTNLSSPIVEFWE 193  
OY 193 RNVLEQKNSGLDDMKPIRPSLALCVGFVLYFSLMKVGSAGKVVWVATALAPYVLL 252  
Db 194 RNM--HQLDGLDQPGQIRAPLAITLAIAMVLYFCIMKGVSWTGKVVYFSAIYPIML 251  
OY 253 ILLARGVTLPGATEGIRYVLTPEMHLONSKVIMDAASQIFPSLPGFGLLALSSYNK 312  
Db 252 TLFPRGVTLPGAREGLIFITTPDFRLSDSEVWLDAAATQIFFSYGLGLSLVALGSKNF 311  
OY 313 NNNCYRDALITSSINCLTSLAGVIFSVLGMAHVNKSIIEVGLGQGLVFIYVPEAI 372  
Db 312 HNNVYDSIIVCCINSTGSMFAGVIFSVIGFMAHTNPIADVAAAGPLAFLAYPEAV 371  
OY 373 ATMTGVSFMAIIFFLMLITGLDSTFGCLAVTALCDEYPRVLRGRREYFVAVLLFTY 432

Db 372 TQLPISPLMSILFFSMLMLGIDISQFCIVEGFTALVDEFPKLRGREIFTAMVCIVSY 431  
OY 433 ICALPTTYGGVYLVLDLNVY-GPGLAILEVVFABAAGVYGVYDRESEDRYTMIGHTP 491  
Db 432 LIGLSNITOGGLXVFKLPFYTSASGMSLLFLVFPETYSIMCYGNRRFFVNIENWGHKP 491  
OY 492 GWFWRTCWSYISPVFLVLFVFSVLAHEEMLGGEYTPSMTITVGMWTGTVSCIPLYI 551  
Db 492 CLMWKLCWSFFPIIVGVFLFSAIQMKPLKMGSYIFPKMGOGVGMFMASSMMLIPGYM 551  
OY 552 IYKLLITPGNCINRIKTQRP 572  
Db 552 GYMFLLSKSLKORLKMTP 572

Search completed: July 18, 2003, 22:01:19  
Job time : 30 secs